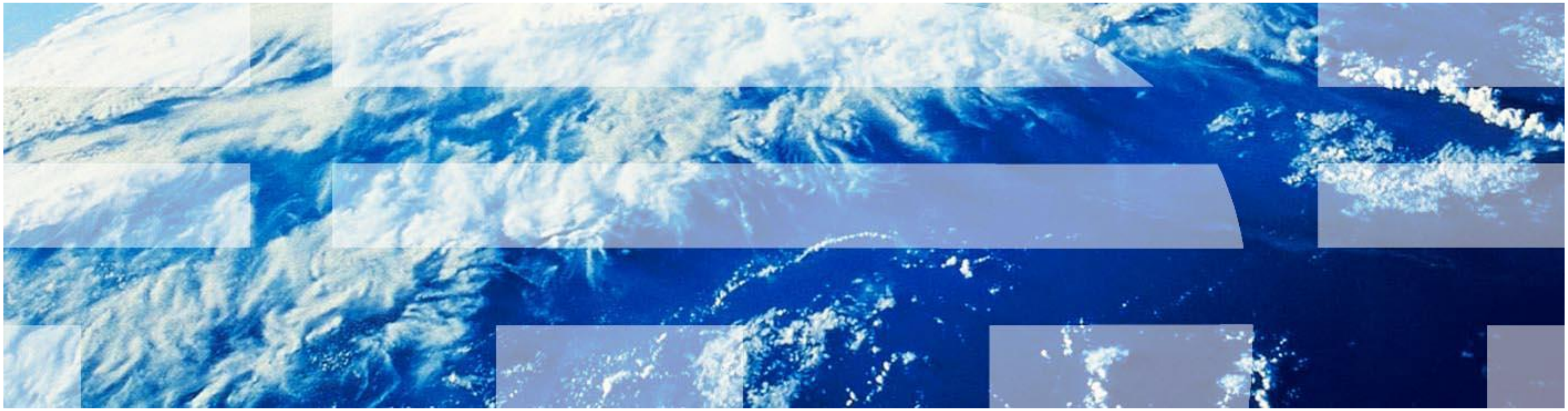
Business Process Orchestration

IBM Business Process Manager v7.5

Orchestration Scenarios

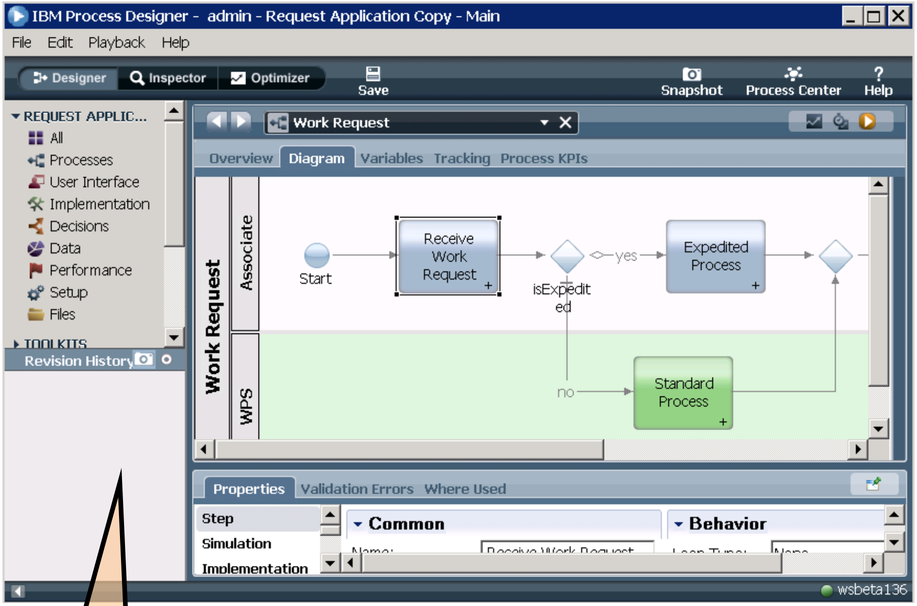


Agenda

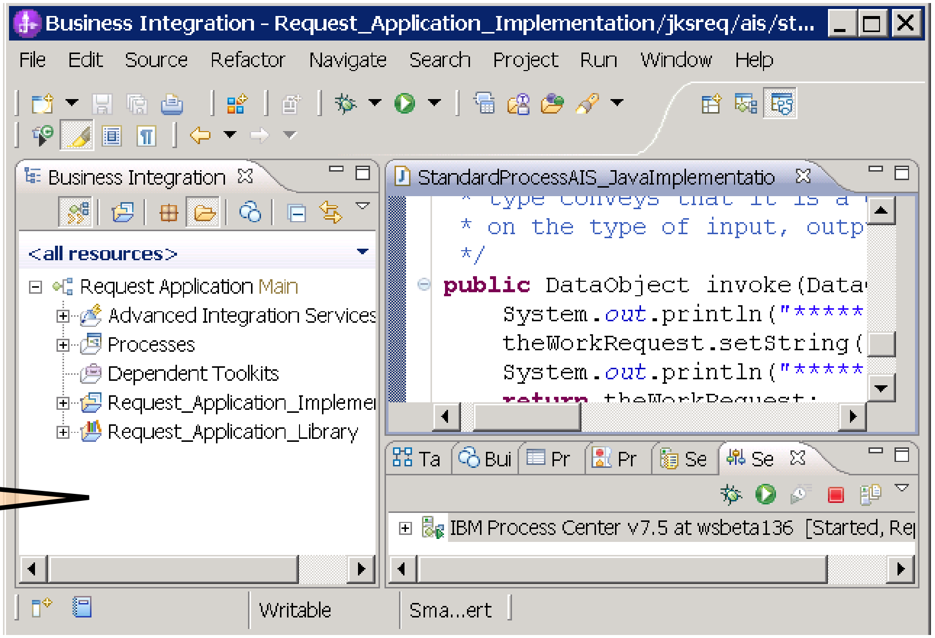
- Overview of the Scenarios
  - Top Down Scenario
  - Bottom Up Scenario
  - Straight Through Processing
  - Straight Through Processing with Exception
- Process Designer and Integration Designer Synchronization

Top Down

- Design an Advanced Integration Service (AIS) interface in Process Designer
- Import the interface into the Integration Designer
- Develop the implementation for the service
- Deliver it back to the Process Designer



Name: Receive Work Request
Loop Type: None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Business Integration
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Request Application Main
Advanced Integration Services
Processes
Dependent Toolkits
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```
 * type conveys that it is a
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 */
public DataObject invoke(Data
    System.out.println("*****
    theWorkRequest.setString(
    System.out.println("*****
    return theWorkRequest;
```
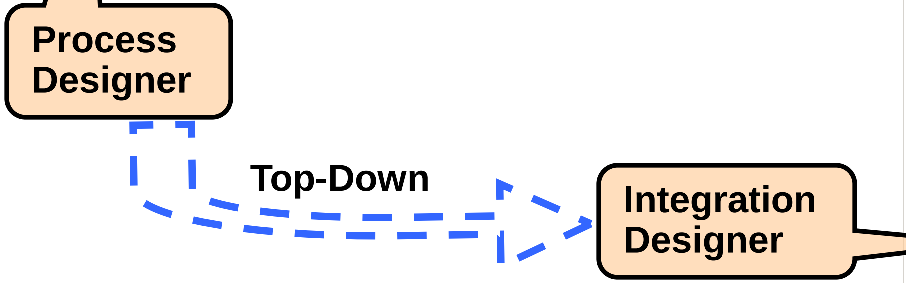



Process Designer

Top-Down

Integration Designer

Top Down Scenario

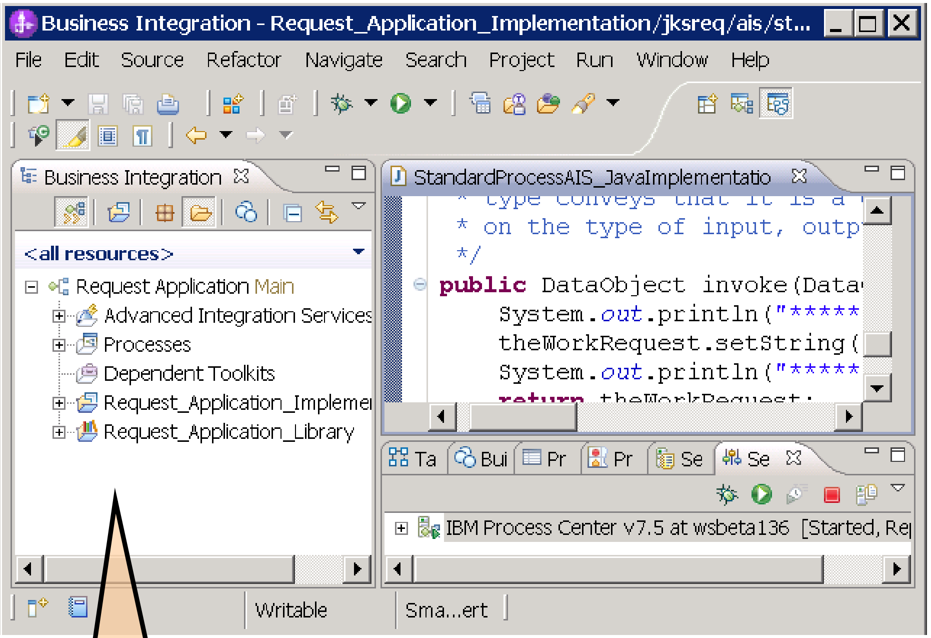
- Process developer's role
  - Create a business process in Process Designer
  - Define an Advanced Integration Service (AIS) in the process
    - Service interface based on input/output variable of AIS
  - Key point: Interface designer and developer

- Integration developer's role
  - Implement the Advanced Integration Service defined in Process Designer
  - Publish the Advanced Integration Service to Process Center
  - Key point: Develop the implementation based on interface given by the Process Developer

- Process developer's role
  - Playback the business process in Process Center
  - Deploy/Run the business process in Process Server

Bottom Up Scenario

- Design and implement an Advanced Integration Service in Integration Designer
- Deliver the interface and the implementation to the Process Designer
- Define a business process in Process Designer that uses the Advanced Integration Service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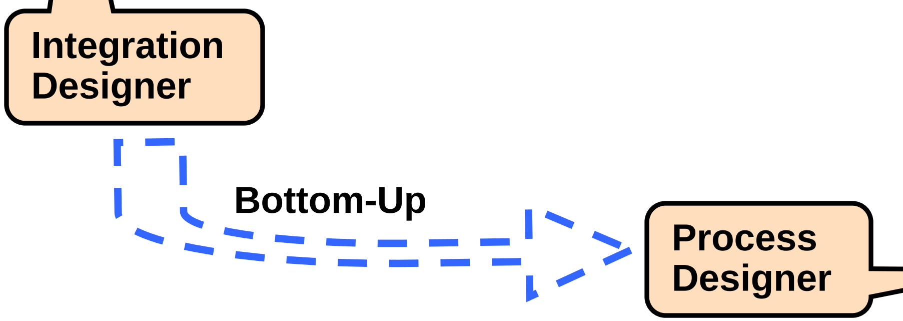
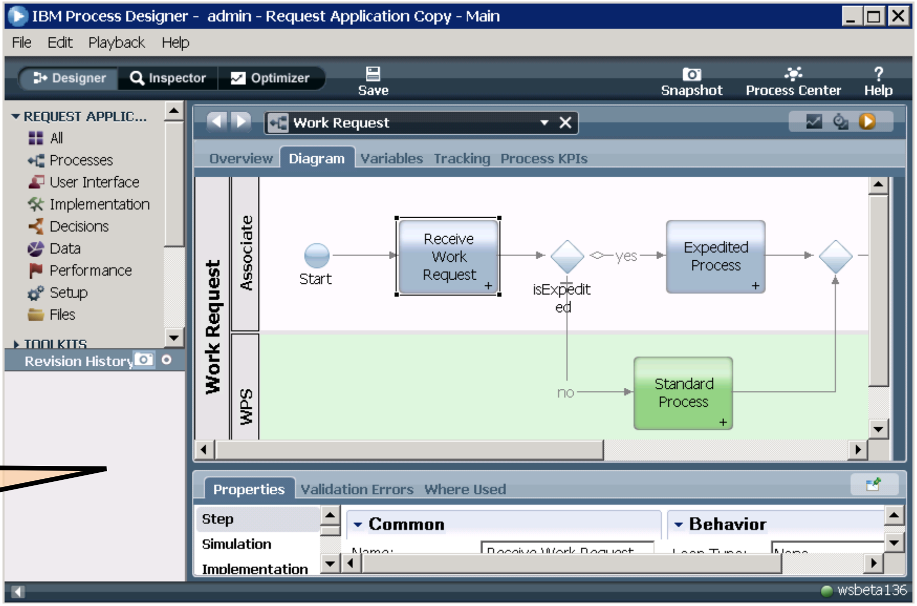




Bottom Up Scenario

- Integration developer’s role
  - Create an Advanced Integration Service
    - Service Interface
    - Service Implementation
  - Publish the Advanced Integration Service to Process Center
  - Key point: Service interface and implementation developer

- Process developer’s role
  - Create a business process in Process Designer
  - Integrate the Advanced Integration Service into the process
  - Playback the business process in Process Center
  - Deploy/Run the business process in Process Server
  - Key point: Use the interface given by the integration developer

Straight Through Processing Scenario

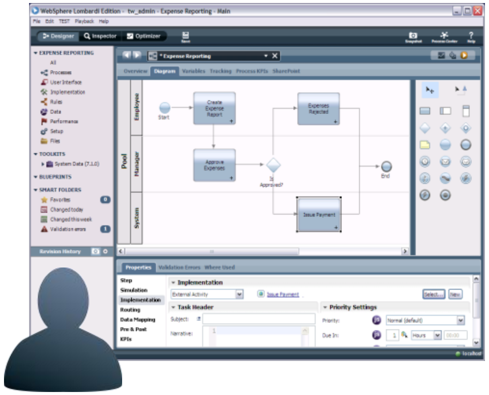
- Straight Through Processing = STP
- STP = Fully automated BPEL calls a BPD to manage human centric exception
  - Ex: Business exception modeled in process, needs human to complete/continue
  - Key point: No AIS needed
- 2 different versions of STP
  - Top down STP – starting in Process Designer
  - Bottom Up STP – starting in Integration Developer BPEL Editor
- Top down STP
  - Starts in Process Designer – create Business Objects, Interfaces, etc. with BPD
- Bottom Up STP
  - Starts in Integration Designer – create Business Objects, Interfaces, etc. with BPEL
- Difference between the two?
  - Bottom Up: Business Objects and Interfaces must be refactored into Process Application
  - Easier to do top-down "from scratch"

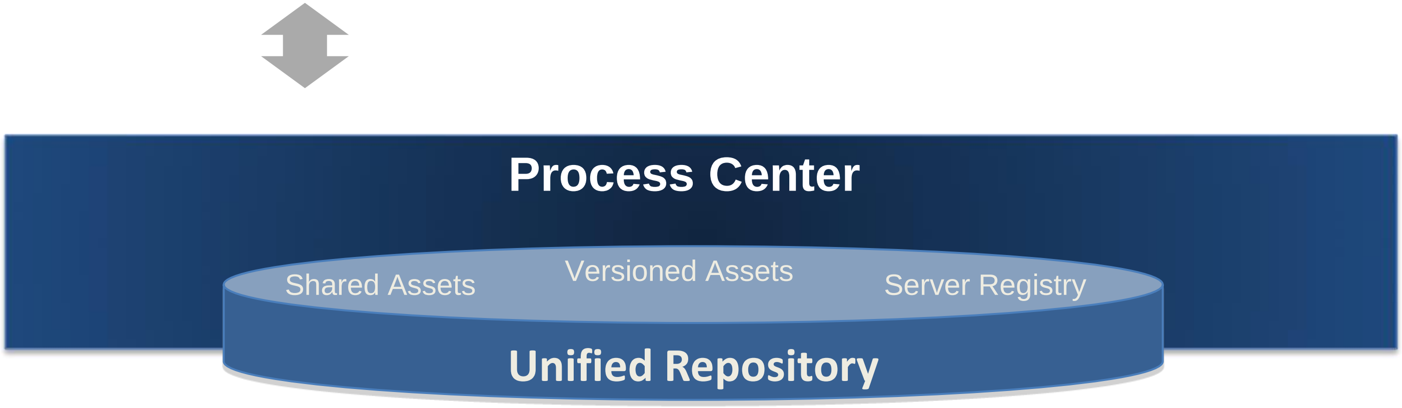
Straight Through Processing Scenario – Top Down

Integrated Design time experience across roles

Asset sharing and versioning via unified repository

- **Business Author** builds a fully executable human-centric BPMN process in the Process Designer

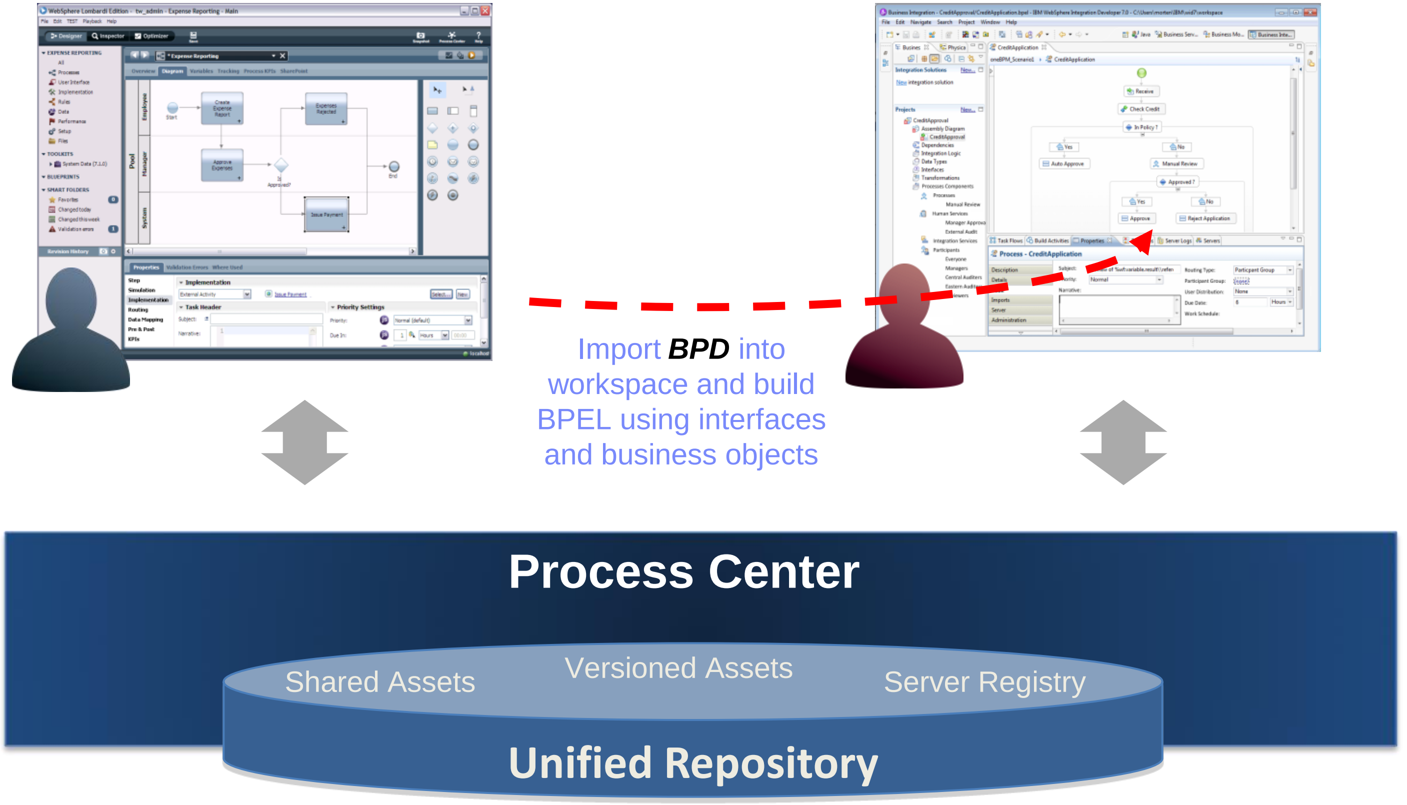




Straight Through Processing Scenario – Top Down

Integrated Design time experience across roles
Asset sharing and versioning via unified repository

- **Business Author** builds a fully executable human-centric BPMN process in the Process Designer
- **IT Developer** builds integrations and straight-through BPEL processes with Integration Designer


Import ***BPD*** into workspace and build BPEL using interfaces and business objects

Process Center

Shared Assets

Versioned Assets

Server Registry

Unified Repository

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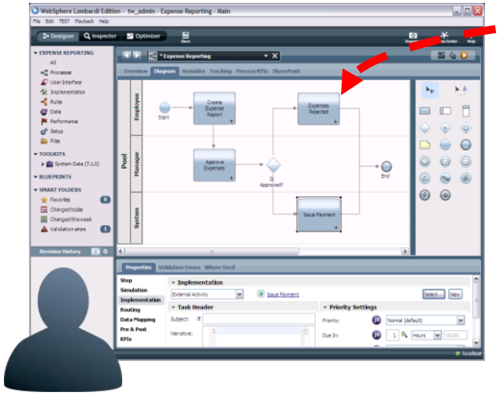
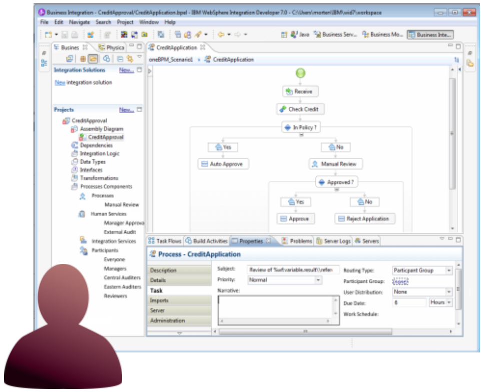
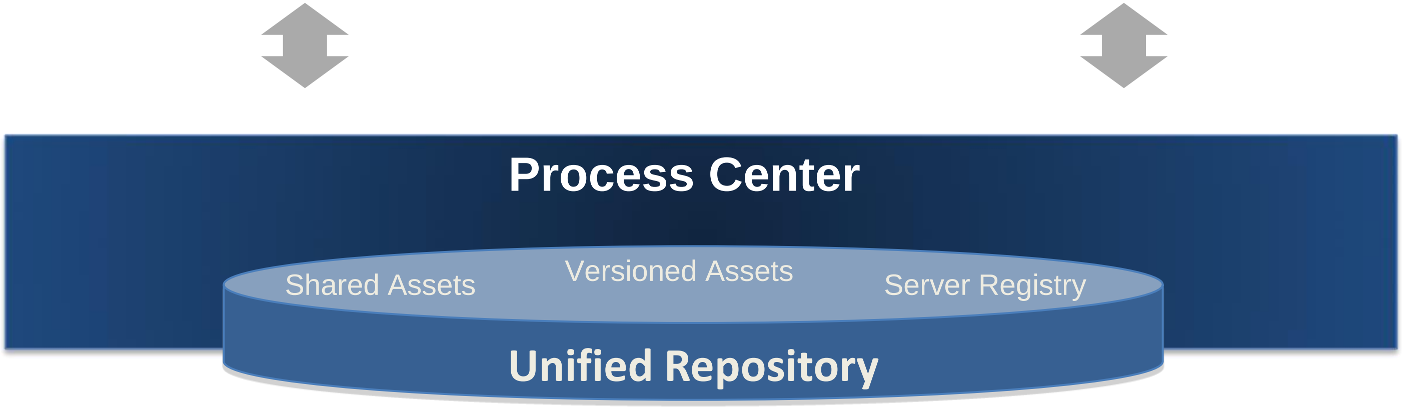


BPEL created in Integration Designer uses ***BPD*** to manage exception process needing human interaction





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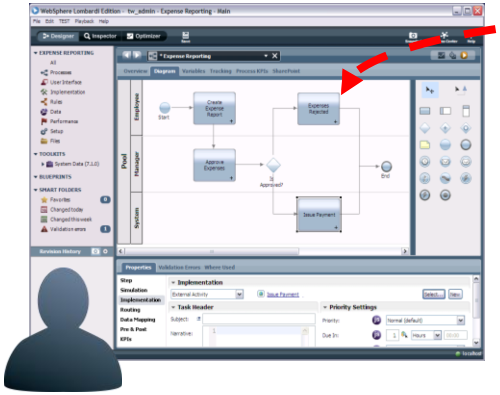
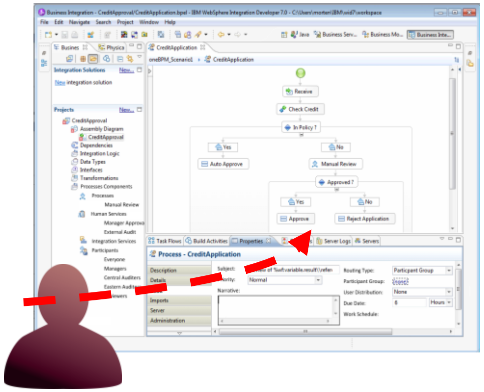
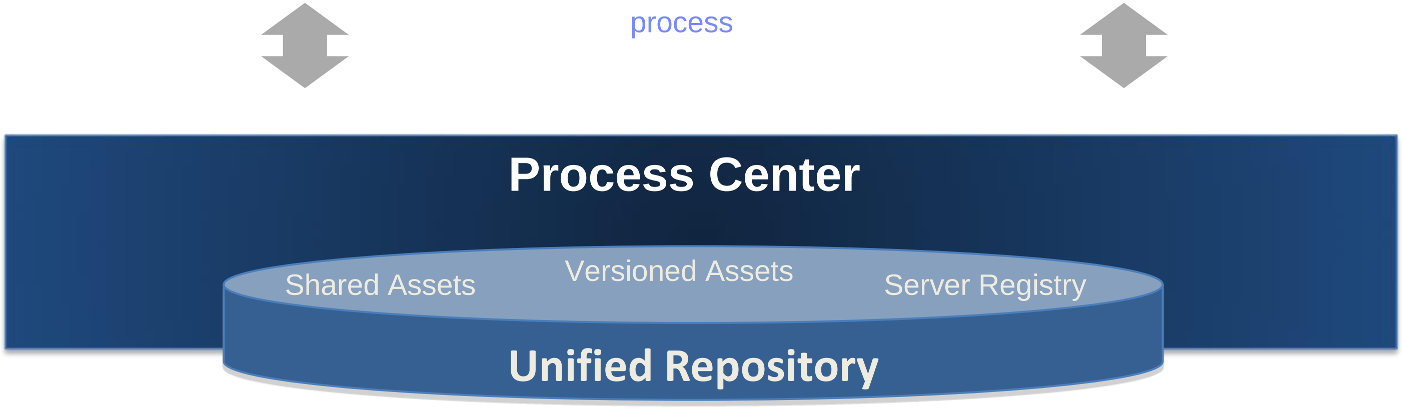


BPEL created in Integration Designer uses ***BPD*** to manage exception process needing human interaction

BPD returns control to automated BPEL process

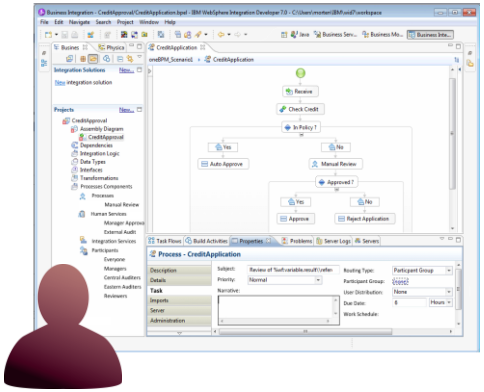




Straight Through Processing Scenario – Bottom Up

Integrated Design time experience across roles
Asset sharing and versioning via unified repository

- **IT Developer** builds integrations and straight-through BPEL processes with Integration Designer



Business Integration - CreditApproval/CreditApplication.bpel - IBM WebSphere Integration Developer 7.0 - C:\Users\morten\IBM\wid7\workspace

Process - CreditApplication

Subject: Review of %wf:variable.result\\refen

Priority: Normal

Narrative:

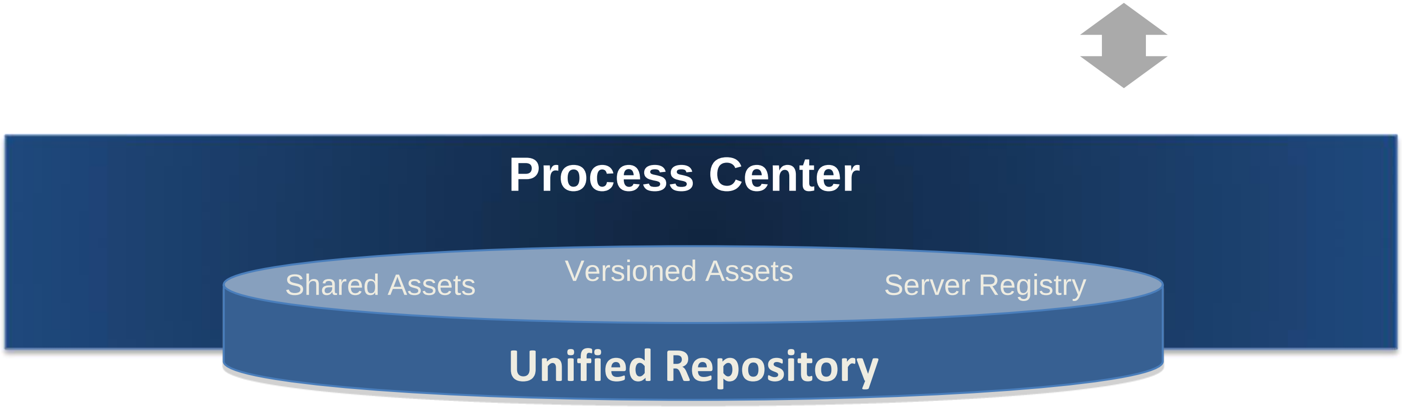
Routing Type: Participant Group

Participant Group: (none)

User Distribution: None

Due Date: 6 Hours

Work Schedule:



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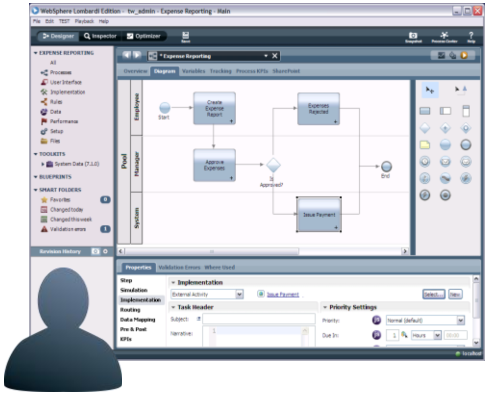

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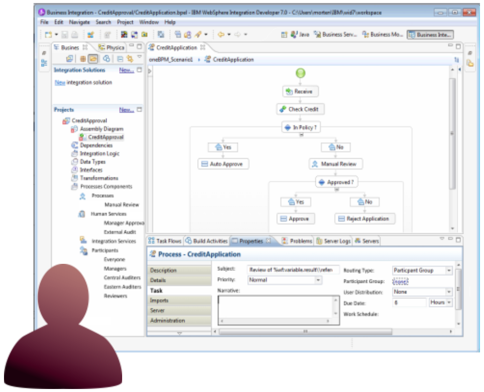

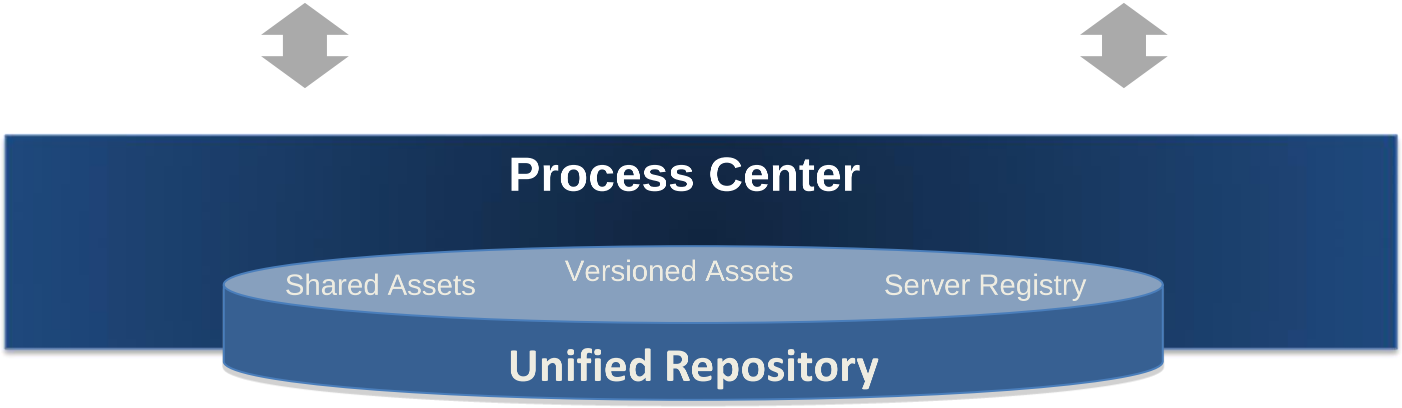

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Integrated Design time experience across roles

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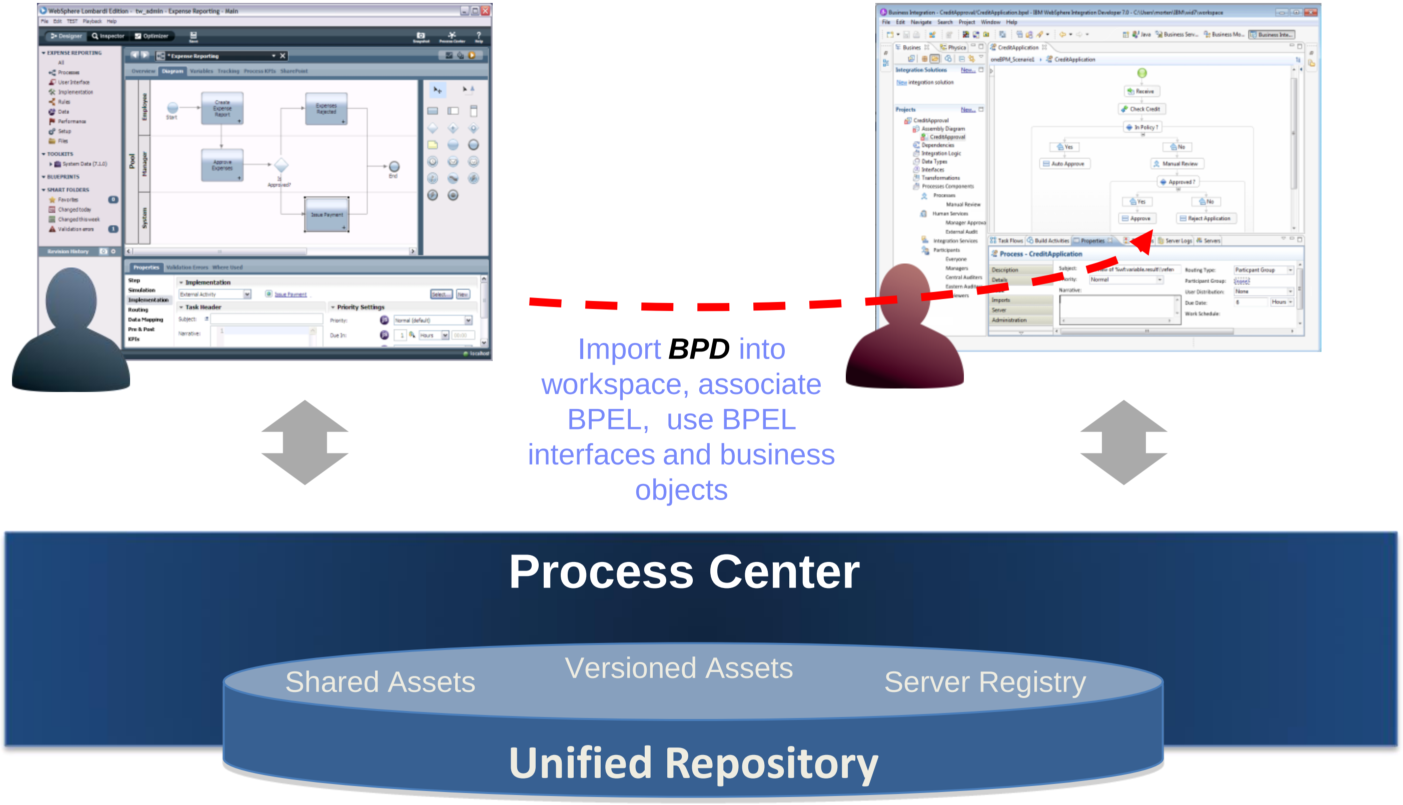

Import ***BPD*** into workspace, associate BPEL, use BPEL interfaces and business objects

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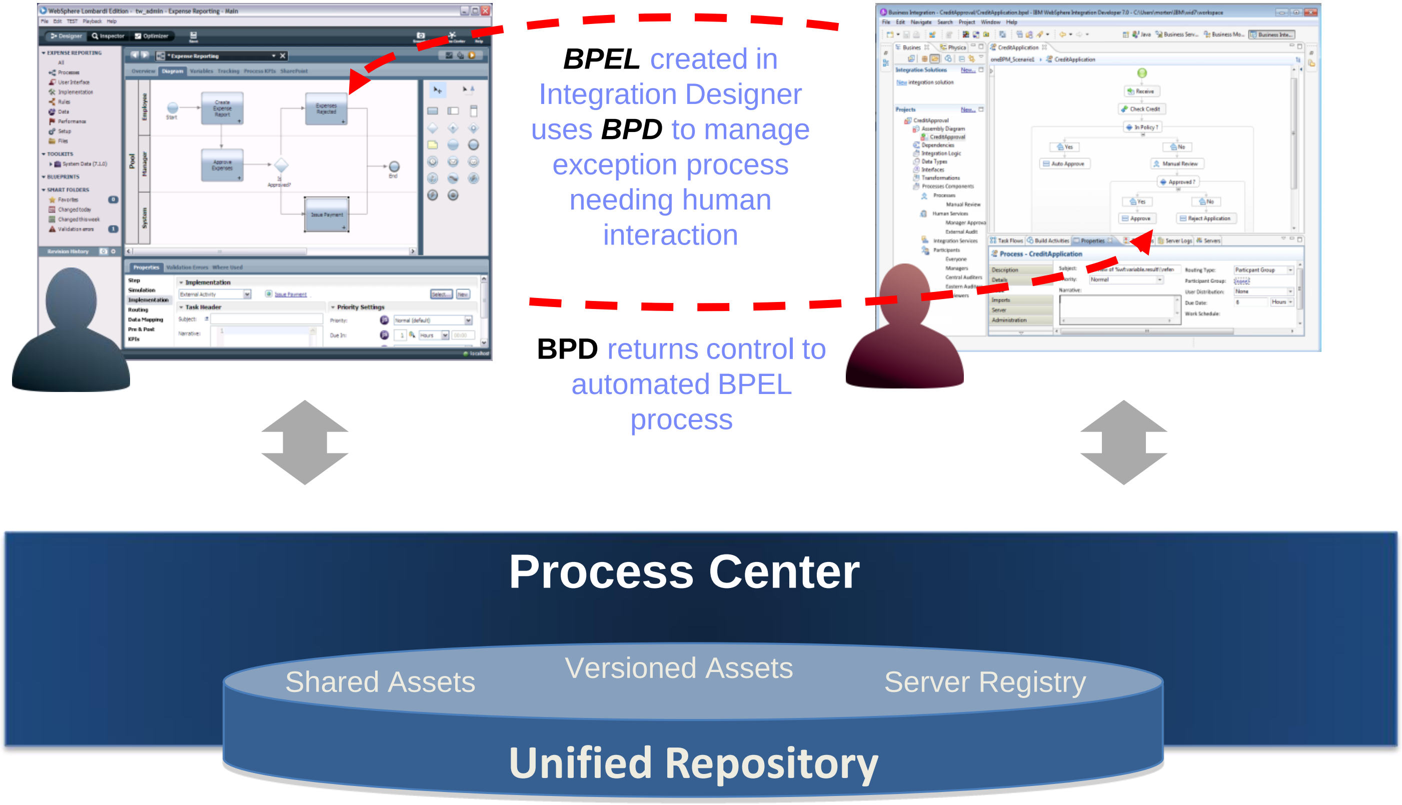

BPEL created in Integration Designer uses ***BPD*** to manage exception process needing human interaction

BPD returns control to automated BPEL process

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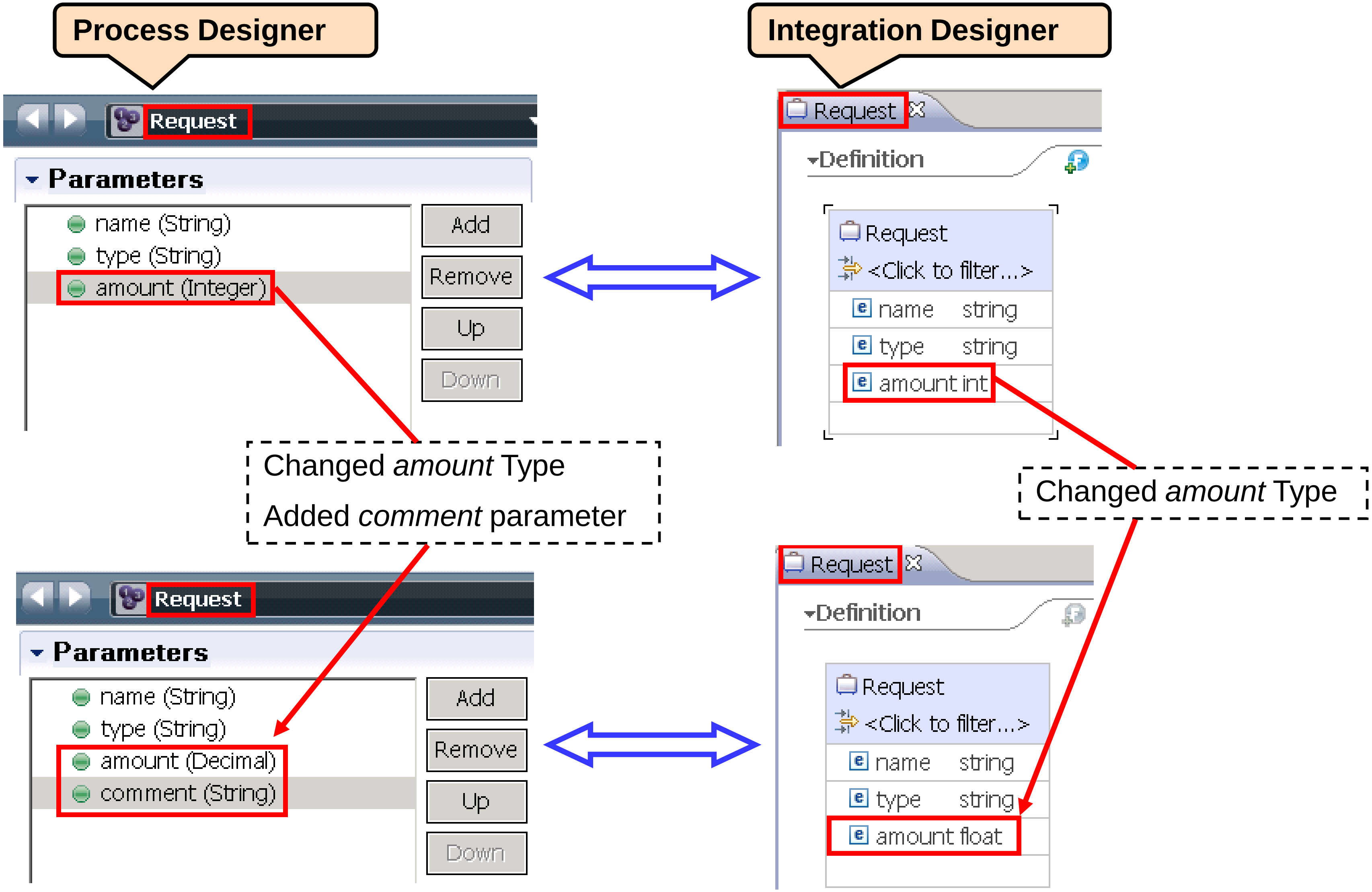
Synchronization In Integration Designer

- Refresh from Process Center
  - When conflicts are detected
    - All conflicts are ignored
    - No communication to users in 7.5
    - Non-conflicting changes, if any, are merged silently
  - When no conflicts are detected
    - Changes are merged silently

- Refresh and Publish
  - When conflicts are detected
    - Visual dialog with three tabs
    - Non-conflicting changes, if any, are selected by default
  - When no conflicts are detected
    - Changes are merged silently
  - Preference setting to always see the dialog

Synchronization – PD and ID updates



Process Designer

Request

Parameters

- name (String)
- type (String)
- amount (Integer)

Integration Designer

Request

Definition

Request

<Click to filter...>

name	string
type	string
amount	int

Changed *amount* Type

Added *comment* parameter

Changed *amount* Type

Request

Parameters

- name (String)
- type (String)
- amount (Decimal)
- comment (String)

Request

Definition

Request

<Click to filter...>

name	string
type	string
amount	float

Summary

Top Down

- Process Designer
  - Import a process app into Process Center
  - Define an Advanced Integration Service
- Integration Designer
  - Bring the process app into Integration Designer
  - Implement the Advanced Integration Service
  - Publish the changes to Process Center
- Process Designer
  - Playback the business process that uses the AIS in the Inspector

Bottom Up

- Integration Designer
  - Create a toolkit
  - Import an existing SCA service implementation and library
  - Associate the SCA modules to the toolkit
  - Publish changes to Process Center
- Process Designer
  - Create a process app
  - Create a business process flow with a dependency on the toolkit
    - Data and AIS in the toolkit
  - Playback the business process that uses the AIS in the Inspector

Synchronization in Integration Designer

- Refresh from Process Center
- Refresh from Publish
- Synchronize dialog

Lab Activities

Part	Topics
Process Center, IID	▪ Start Process Center. ▪ Launch IID and connect to Process Center. ▪ Configure/Setup test server environment in IID.
Business Objects and Maps	▪ Create Order Processing canonical business objects. ▪ Create Interfaces for Order Processing app and the services.
Business Process	▪ Create a BPEL process. ▪ Add reference partners. ▪ Add process variables. ▪ Construct the business process. ▪ Add fault handler to the business process.
Assemble Services	▪ Implement Stock Manager Service as a Java Component. ▪ Implement Shipping Service as a Java Component. ▪ Implement Persistence Service as a Java Component. ▪ Wire Services to the business process.
Test business process	▪ Component test the business process.

Questions